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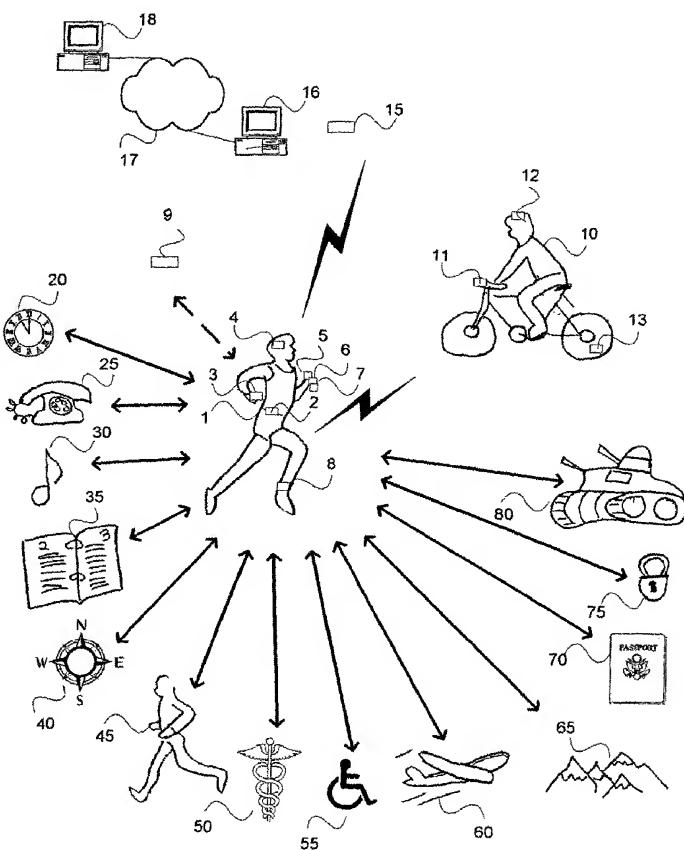
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[Continued on next page]

(54) Title: MODULAR PERSONAL NETWORK SYSTEMS AND METHODS



(57) Abstract: We have disclosed a modular personal network (MPN) that includes multiple devices that may be worn, carried, or used in close proximity to a user. The devices communicate wirelessly. Functions of the MPN may be modified by adding or removing components. The MPN may communicate with a personal computer. General purpose devices may include a control unit, a display, a user input, and an audio output. The MPN may provide a variety of functions, including time, communication, entertainment, organization, guidance, athletic, medical, travel, outdoors, identity, security and military. The wireless protocol is preferably based on the Bluetooth or IEEE 802.15 standards.

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GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04L12/28 H04Q7/32 A61B5/00 A63B24/00 G06F9/44
G06F3/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04L H04Q A61B A63B G06F G02C G06K G06T G11B G07F G01C G01D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 36900 A (FOURIE LOUISE) 29 June 2000 (2000-06-29) the whole document ----	1-5
X	WO 98 38820 A (ERICSSON TELEFON AB L M) 3 September 1998 (1998-09-03) abstract ----	1-5
X	GB 2 350 749 A (MOTOROLA LTD) 6 December 2000 (2000-12-06) abstract ----	1-5
A	EP 1 018 832 A (SONY COMP ENTERTAINMENT INC) 12 July 2000 (2000-07-12) abstract ----	1-5 -/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search

19 September 2002

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08.10.02

Name and mailing address of the ISA

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PCT/US 02/04947

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 157 824 A (BAILEY KENNETH S) 5 December 2000 (2000-12-05) the whole document ----	6
X	BHAGWAT P ET AL: "A routing vector method (RVM) for routing in Bluetooth scatternets" MOBILE MULTIMEDIA COMMUNICATIONS, 1999. (MOMUC '99). 1999 IEEE INTERNATIONAL WORKSHOP ON SAN DIEGO, CA, USA 15-17 NOV. 1999, PISCATAWAY, NJ, USA, IEEE, US, 15 November 1999 (1999-11-15), pages 375-379, XP010370736 ISBN: 0-7803-5904-6 Sections IV and V "Inter-piconet communication: Design Rationale" and "Inter piconet Unicast Communication" page 376, right-hand column -page 377, right-hand column ----	7
X	WO 01 00281 A (TRAKUS INC) 4 January 2001 (2001-01-04) page 3, line 2 -page 5, line 25 page 21, line 21 -page 22, line 17; figure 4A ----	8,11,12, 15
X	US 6 108 197 A (JANIK CRAIG M) 22 August 2000 (2000-08-22) cited in the application column 3, line 23 - line 59 ----	9,10,12, 13
X	US 5 781 913 A (MASON WILLIAM ET AL) 14 July 1998 (1998-07-14) cited in the application column 5, line 62 -column 6, line 64; figures 1,2 ----	9,10,12, 13
X	US 6 041 023 A (LAKHANSINGH CYNTHIA) 21 March 2000 (2000-03-21) abstract ----	14
X	US 6 013 007 A (VAN HOORN FRANK ET AL) 11 January 2000 (2000-01-11) the whole document ----	11,14-18
X	US 6 050 924 A (SHEA MICHAEL J) 18 April 2000 (2000-04-18) the whole document ----	19,20
X	US 5 524 637 A (ERICKSON JON W) 11 June 1996 (1996-06-11) the whole document ----	21,24-29
		-/-

INTERNATIONAL SEARCH REPORT

Internal Application No

PCT/US 02 04947

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 87 05229 A (SCIENT APPLIED RESEARCH SAR) 11 September 1987 (1987-09-11) the whole document ----	22,23
X	US 5 516 334 A (EASTON GREGORY D) 14 May 1996 (1996-05-14) the whole document ----	24-30
X	US 5 655 028 A (VOSS EDWARD R ET AL) 5 August 1997 (1997-08-05) abstract ----	31
X	US 5 813 009 A (JOHNSON JUDY J ET AL) 22 September 1998 (1998-09-22) abstract ----	32
Y	US 6 002 918 A (SHIBA MICHAEL ET AL) 14 December 1999 (1999-12-14) column 11, line 44 -column 12, line 47 ----	33
Y	DE 197 12 672 A (BRAUN AG) 2 July 1998 (1998-07-02) column 2, line 34 -column 3, line 5; claims 1,3 ----	33
A	BARBER T ET AL: "DESIGNING FOR WIRELESS LAN COMMUNICATIONS" IEEE CIRCUITS AND DEVICES MAGAZINE, IEEE INC. NEW YORK, US, vol. 12, no. 4, July 1996 (1996-07), pages 29-33, XP000831606 ISSN: 8755-3996 ----	
A	JONES K L ET AL: "A Protocol for Automatic Sensor Detection and Identification in a Wireless Biodevice Network" ELEVENTH IEEE SYMPOSIUM ON COMPUTER-BASED MEDICAL SYSTEMS, 12 June 1998 (1998-06-12), XP002133125 ----	
A	BUKHRES O ET AL: "Mobile computing in military ambulatory care" COMPUTER-BASED MEDICAL SYSTEMS., 1997. PROCEEDINGS., TENTH IEEE SYMPOSIUM ON MARIBOR, SLOVENIA 11-13 JUNE 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 11 June 1997 (1997-06-11), pages 58-63, XP010229277 ISBN: 0-8186-7928-X -----	

INTERNATIONAL SEARCH REPORT

International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-5

The special technical feature is a network of mobile phones where software can be downloaded from a central processor to the mobile phones.

2. Claim : 6

The special technical feature is that a programmed network identifier can only be modified by an authorized user.

3. Claim : 7

The special technical feature is the sending or a message from a component of a first modular personal network to a component of a second modular network.

4. Claims: 8-15

The special technical features are input and output means in a mobile information system.

5. Claims: 16-18

The special technical feature is a positioning monitoring means.

6. Claims: 19-30

The special technical feature is sensing parameters of the human body.

7. Claim : 31

The special technical feature is the comparison of stored images.

8. Claim : 32

The special technical feature is to communicate journal entries stored in a user device to a personal computer.

9. Claim : 33

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

The special technical feature is the sending of a turn-off and turn-on messages to other devices in a wireless network.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/US 02 A4947

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
WO 0036900	A 29-06-2000		AU 3774900 A AU 3775000 A AU 4520100 A EP 1145533 A2 WO 0038435 A2 WO 0038393 A2 WO 0036900 A2	12-07-2000 12-07-2000 12-07-2000 17-10-2001 29-06-2000 29-06-2000 29-06-2000
WO 9838820	A 03-09-1998		US 6023620 A AU 734670 B2 AU 6640398 A BR 9807612 A CN 1249112 T DE 19882136 T0 WO 9838820 A2	08-02-2000 21-06-2001 18-09-1998 22-02-2000 29-03-2000 05-01-2000 03-09-1998
GB 2350749	A 06-12-2000		NONE	
EP 1018832	A 12-07-2000		JP 2000206916 A AU 6523799 A BR 0000026 A CN 1260646 A EP 1018832 A2 NZ 501862 A TW 443052 B	28-07-2000 13-07-2000 19-12-2000 19-07-2000 12-07-2000 26-10-2001 23-06-2001
US 6157824	A 05-12-2000		AU 2777499 A EP 1023812 A1 WO 9945720 A1	20-09-1999 02-08-2000 10-09-1999
WO 0100281	A 04-01-2001		AU 6202800 A WO 0100281 A2	31-01-2001 04-01-2001
US 6108197	A 22-08-2000		US 5798907 A US 5581492 A US 5491651 A US 5285398 A AU 695631 B2 AU 2090095 A CA 2182799 A1 EP 0748473 A1 JP 10502468 T WO 9521408 A1 AU 665164 B2 AU 4377393 A AU 676451 B2 AU 4809996 A CA 2135771 A1 EP 0640226 A1 JP 10133770 A JP 2744134 B2 JP 7508114 T WO 9323801 A1	25-08-1998 03-12-1996 13-02-1996 08-02-1994 20-08-1998 21-08-1995 10-08-1995 18-12-1996 03-03-1998 10-08-1995 14-12-1995 13-12-1993 06-03-1997 23-05-1996 25-11-1993 01-03-1995 22-05-1998 28-04-1998 07-09-1995 25-11-1993
US 5781913	A 14-07-1998		US 5450596 A	12-09-1995
US 6041023	A 21-03-2000		AU 3741600 A EP 1195012 A1	16-10-2000 10-04-2002

INTERNATIONAL SEARCH REPORT
Information on patent family members

Internal Application No
PCT/US 02 04947

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 6041023	A	WO	0059122 A1	05-10-2000
US 6013007	A	11-01-2000	AU 742130 B2 AU 3353299 A CA 2323492 A1 EP 1076806 A1 JP 2002507734 T WO 9949279 A1	20-12-2001 18-10-1999 30-09-1999 21-02-2001 12-03-2002 30-09-1999
US 6050924	A	18-04-2000	NONE	
US 5524637	A	11-06-1996	NONE	
WO 8705229	A	11-09-1987	AU 7081687 A EP 0295256 A1 WO 8705229 A2	28-09-1987 21-12-1988 11-09-1987
US 5516334	A	14-05-1996	NONE	
US 5655028	A	05-08-1997	NONE	
US 5813009	A	22-09-1998	NONE	
US 6002918	A	14-12-1999	US 5815811 A US 5528621 A US 5280498 A US 5142550 A US 5029183 A CA 2218268 A1 CA 2186923 A1 EP 0781005 A1 JP 9215044 A AU 667264 B2 AU 5931994 A CA 2119335 A1 EP 0619663 A2 JP 7099500 A AT 178748 T AU 657149 B2 AU 2089992 A CA 2072345 A1 DE 69228856 D1 DE 69228856 T2 EP 0544337 A1 ES 2130147 T3 JP 5244158 A US 5479441 A US 5668803 A AT 168845 T CA 2051212 A1 DE 69129838 D1 DE 69129838 T2 EP 0496986 A2 EP 0797332 A2 ES 2118733 T3 JP 4304049 A US 5401944 A AU 627333 B2	29-09-1998 18-06-1996 18-01-1994 25-08-1992 02-07-1991 08-05-1998 28-04-1997 25-06-1997 15-08-1997 14-03-1996 13-10-1994 09-10-1994 12-10-1994 11-04-1995 15-04-1999 02-03-1995 03-06-1993 28-05-1993 12-05-1999 11-11-1999 02-06-1993 01-07-1999 21-09-1993 26-12-1995 16-09-1997 15-08-1998 29-06-1992 27-08-1998 25-03-1999 05-08-1992 24-09-1997 01-10-1998 27-10-1992 28-03-1995 20-08-1992

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No

PCT/US 02 04947

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 6002918	A		AU 5808090 A	03-01-1991
			CA 1310370 A1	17-11-1992
			DE 69030936 D1	24-07-1997
			DE 69030936 T2	29-01-1998
			EP 0405074 A2	02-01-1991
			EP 0770962 A2	02-05-1997
			JP 2506481 B2	12-06-1996
			JP 3038133 A	19-02-1991
			US 5157687 A	20-10-1992
			US 5103461 A	07-04-1992
DE 19712672	A	02-07-1998	DE 19712672 A1	02-07-1998